CHAPTER 10

Considering Special Needs—Web Accessibility

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Web accessibility allows those with visual or hearing impairment to access the same information available to others on the Web. But even though that's important, accessibility goes far beyond that purpose. New generations of devices with differing degrees of Web-browsing capability are becoming more and more common, and accessibility standards also ensure that Web pages degrade gracefully on machines that can't fully support all the page's features.

Accessible Design

Accessible design requires graceful transformation. Pages that transform gracefully are accessible to all regardless of any barriers such as physical disability and sensory challenges. In order for content to transform gracefully, it must provide a text equivalent for images and audio content, and must offer the same information to users who cannot see or hear. Visually impaired users can use screen-reader technology, but the contents of the site must be available as text in order for the screen reader to access the information. Similarly, hardware constraints cannot stand in the way of the data. A user who is unable to control a mouse or who uses a black-and-white screen should still have the full content available to them.

Making content understandable and navigable is the second part of accessible design. This requires clarity of language, and it also calls for site design that provides an easy and understandable way of traveling from page to page and back again. Image maps and menu bars may look spiffy, but they may be confusing to some users. Providing an alternative is good design, because users access-ing the page by alternate means may lose the context of the menus or image maps.

The accessibility guidelines (www.w3.org/TR/1999/WAI-WEBCONTENT-19990505/) describe three priority levels, as well as conformance standards. Level-1 priorities are those standards content developers *must* satisfy, or some groups will find it impossible to access the content. Level-2 priorities are standards that developers *should* adhere to, or some groups may find it difficult to access the site. Level-3 priorities are standards the developers *may* adhere to so they don't make it somewhat difficult for certain groups to access the Web documents.

Conformance to all level-1 priorities is considered conformance-level A. Adherence to all level-1 and -2 priorities is double-A conformance, while meeting all level-1, -2, and -3 guidelines is referred to as triple-A conformance.

Accessibility Guidelines

There are 14 accessibility guidelines. This section lists and provides a brief description of each.

1. **Provide equivalent alternatives to auditory and visual content.** Alternative content that provides the same information as the original audio or visual material should be provided to the user.
2. **Don't rely on color alone.** Many people have partial color-blindness, which means that some color combinations may be almost indecipherable to them. Color is best used as a means of emphasizing content; when certain combinations are used, or if insufficient contrast exists between the background and foreground colors, you have excluded a group of users from clear understanding of your Web material.
3. **Use markup and style sheets, and do so properly.** In this book we emphasize the importance of separating structure and content. In accessibility terms, misuse of markup may render content indecipherable to screen readers or other specialized software.
4. **Clarify natural language usage.** Content developers need to specify the natural language used on their pages. Braille devices and speech synthesizers can adjust to many languages, but only if it is properly designated.
5. **Create tables that transform gracefully.** Tables should not be used to lay out pages, or for any other purpose than to lay out information that is best described in tabular form. Tables are a challenge for many screen-reader programs.
6. **Ensure that pages featuring new technologies transform gracefully.** Developers using the latest technology on their pages should also ensure that the pages are accessible and navigable when the new features are turned off.
7. **Ensure user control of time-sensitive content changes.** Blinking, moving, or scrolling text may be challenging for users with certain cognitive or visual disabilities. Be certain that this type of content can be turned off.

8. **Ensure direct accessibility of embedded user interfaces.** If an embedded object has its own interface, be certain that alternative navigation controls are provided, such as those embedded in the browser itself.
9. **Design for device-independence.** Don't always assume your pages are being viewed on a traditional PC with a mouse. Consider users with mouth-sticks, those using voice commands, and others.
10. **Use interim solutions.** Older browsers and screen readers may not be able to support all new features. A commonly used Web design spawns a new browser window when the user selects a link, rather than opening the link in the current browser window. This may be confusing to a user accessing the page through a screen-reader program.
11. **Use W3C technologies and guidelines.** Whenever possible, use W3C guidelines and technologies. These guidelines typically provide accessibility alternatives. In contrast, some plug-ins and new technologies may not provide simple accessibility alternatives, which means you must provide the alternatives yourself.
12. **Provide context and orientation information.** Providing contextual references and grouping elements may be useful to users. What may appear clear to you may be almost indecipherable to a visually impaired user unless your grouping or layout is clarified.
13. **Provide clear navigation mechanisms.** Consistency in providing navigation devices — menu bars, text equivalent navigation tools, and the orientation and grouping information just discussed — assists users in navigating your site.
14. **Ensure that documents are clear and simple.** Providing easy-to-understand documents in a consistent manner page-to-page may be the most important of all the accessibility guidelines.

From Here

Proceed to Chapter 11 to learn about server options.

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Summary

You now know the most important considerations for ensuring that your Web content is accessible to the most users, and how to design your Web page so that access challenges you may not have considered can still be surmounted.

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